

SWAN RIVER NATIONAL WILDLIFE REFUGE

Kalispell, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1998

U.S. Department of Interior
FISH AND WILDLIFE SERVICE

NATIONAL WILDLIFE REFUGE SYSTEM

REVIEW AND APPROVALS

SWAN RIVER NATIONAL WILDLIFE REFUGE

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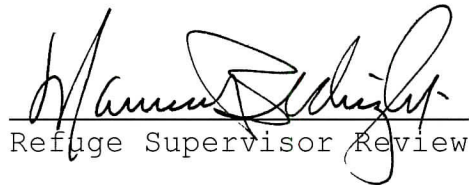
Calendar Year 1998


Refuge Manager

4-2-99
Date


Project Leader

5/3/99
Date


Refuge Supervisor Review

11/14/99
Date


Regional Office Approval

11/10/99
Date

INTRODUCTION

The Swan River National Wildlife Refuge (NWR), is located in northwest Montana, 38 miles southeast of the town of Creston, in the serene and picturesque Swan Valley Mountain Range. The Refuge was established in 1973 at the request of Montana Senator Lee Metcalf, who often hunted the area and desired to see it preserved. The Refuge was established under the authority of the Migratory Bird Conservation Act. It consists of 1,568 acres, with an additional 210-acre Forest Service inholding that is managed under a Memorandum of Understanding. The refuge boundary lies within the floodplain of the Swan River above Swan Lake and between the Swan Mountain Range to the east and the Mission Mountain Range to the west. The valley was formed when glacial water poured down the steep slopes of the Mission Range into Flathead Lake. The valley floor is generally flat, but rises steeply to adjacent forested mountain sides. Approximately 80 percent of the refuge lies within this valley floodplain, which is composed mainly of reed canary grass. Deciduous and coniferous forests comprise the remaining 20 percent. Swan River, which once meandered through the floodplain, has been forced to the west side of the refuge by past earthquakes and deposits of silt. The result of these geologic events is a series of oxbow sloughs within the refuge floodplain.

The purpose of the refuge is "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds". Objectives of the refuge are to provide for waterfowl habitat and production and to provide for other migratory bird habitat. The refuge also provides a nesting site for a pair of southern bald eagles and a variety of other avian species. In addition, deer, elk, moose, beaver, bobcat, black bear and grizzly bears are known to inhabit the area. There are no significant developments or facilities on the refuge and present management is directed at maintaining the area in its natural state. The refuge is a satellite unit of the National Bison Range Complex. Day-to-day administration and operations are the responsibility of the on-site Assistant Refuge Manager located at the Creston Fish and Wildlife Center in Creston, Montana, 38 miles northwest of the refuge.

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L. INFORMATION PACKET

A. HIGHLIGHTS

Estimated duck production decreased 24 percent; Canada goose production increased 153 percent (Section G.3.).

The bald eagle pair failed to produce eaglets this year. (Section G.2.).

Construction started on the Watchable Wildlife Viewing platform, kiosk and accessible trail.

B. CLIMATIC CONDITIONS

In 1998, above-average precipitation fell in every month except February, July and August. Precipitation for the year totaled 37.60 inches, 41 percent above the 30-year average, making the year the eighth wettest on record.

Temperatures were relatively mild throughout the early winter months. January's temperatures ranged from a yearly low reading of -18 to a monthly high of 45. Temperatures remained near normal during the summer months as Swan Lake residents enjoyed another balmy, pleasant summer. A yearly high of 90 was recorded in September. Temperatures in October, November, and December were also mild except for a mid-December cold spell that brought sub-zero temperatures. Only 15.5 inches of snow fell in November and December. Annual snowfall totaled 54.5 inches compared to nearly 100 inches of snow in 1997. At year's end only 12 inches of snow remained on the valley floor.

Ice-out occurred in late March. Wetlands within the Refuge froze, then thawed several times in late November and early December before a final freeze-up occurred on December 20th.

Climatic data for the refuge was provided by Ms. Joan Thuma, a resident of Swan Lake.

Table I. 1998 Climatic Data, Swan River National Wildlife Refuge

MONTH	TEMPERATURE		PRECIPITATION (INCHES)		SNOWFALL
	HIGH	LOW	1998	12-YR AV.	1998
January	45°	-18°	3.40"	3.12"	19.0"
February	44°	16°	1.25"	2.54"	5.0"
March	52°	14°	4.25"	2.06"	15.0"
April	76°	28°	2.20"	1.49"	.0"
May	78°	32°	5.60"	2.41"	.0"
June	80°	38°	6.25"	1.98"	.0"
July	80°	48°	1.55"	1.57"	.0"
August	88°	42°	.75"	1.62"	.0"
September	90°	38°	2.05"	1.59"	.0"
October	64°	26°	2.50"	1.76"	.0"
November	48°	24°	3.92"	2.98"	1.5"
December	42°	-12°	3.88"	3.48"	14.0"
			37.60"	26.60"	54.5"

C. LAND ACQUISITION

1. Fee Title

There was no land acquisition to the refuge in 1998.

E. ADMINISTRATION

The Swan River NWR is a satellite unit of the National Bison Range Complex(NBR), and is manned by an Assistant Refuge Manager located at the Creston Fish and Wildlife Center. Refuge activities such as budgeting, detailed administrative and operational functions are supervised by the Project Leader at NBR. Day-to-day administrative functions are provided by the administrative staff located at the Creston Fish and Wildlife Center. Refer to the Wetland District Narrative for administrative and budgeting details.

1. Personnel

In 1998, National Bison Range Complex staff located at the Creston Fish and Wildlife Center included Ray Washtak, Assistant Refuge Manager and Rox Rogers, wildlife biologist for the Partners for Wildlife Program.

4. Volunteer Programs

On various occasions during the year, Bob Cole and Bob Carr assisted with several field activities on the refuge and WMD, including posting of closure signs, Canada goose nest structure re-hab and installation and WMD posting. Both individuals are active members of Flathead Wildlife Inc., a local sportsmen's club.

6. Safety

When safety meetings were held by the Creston Fish and Wildlife staff, refuge personnel attended.

F. HABITAT MANAGEMENT

2. Wetlands

Approximately 1,254 acres of the refuge are classified as a wetland/grassland complex. All of this acreage lies within an "alluvial floodplain" adjacent to the south end of Swan Lake. Vegetation is composed primarily of mono-typic stands of reed canary grass.

With the exception of a culvert under Bog Road in Spring Creek and a staff gauge within the creek, which in the past has been used for recording water flow levels, no other water control structures, facilities or developments exist on the refuge.

Flooding of the refuge occurs on an annual basis in May, June and July. In 1998 snow packs in the Swan Range were near normal in February and March. As a result approximately 80 percent of the refuge flooded this year. Flood waters flow into the refuge from several tributaries: Swan River, Bond Creek, Yew Creek and Spring Creek. Potholes, old river oxbows and reed canary grass meadows were inundated by late May and early June. Flows in the Swan River and other smaller tributaries remained high well into July. Warmer weather in July and August resulted in the reed canary grass meadows drying out by late August and early September.

3. Forests

Forested areas comprise approximately 313 acres of the refuge. Wooded tracts lie primarily on the west, south and southeastern portions of the refuge. Tree species include old growth fir, spruce, cedar and larch. Large cottonwood trees are found along the banks of the Swan River. All forested units are maintained in their natural state.

7. Grazing

There was no grazing on the refuge this year due to wet soil conditions. The lack of interior cross fences and willing permittees limits our use of this management tool.

8. Haying

There was no haying on the refuge this year. For several years attempts have been made to locate hay permittees; however, there have been no "takers". Farming and ranching activities are limited in the Swan Valley. Ranchers who hay in the valley or the Kalispell area are generally reluctant to travel the distance to the refuge; therefore, it has been difficult to find willing permittees. Haying the dense stands of reed canary grass would be beneficial in restoring vegetative quality, as well as providing additional open marsh areas for waterfowl pairs and broods.

10. Pest Control

Canada thistle continues to be the most persistent noxious weed found on the refuge. Infestations are generally limited to elevated upland sites within wetland areas and the nesting islands located in the northwest portion of the refuge. Chemical control is generally not feasible due to the proximity of wetland sites.

G. WILDLIFE

2. Endangered Species

The bald eagle pair were observed in the vicinity of the nest site in mid-April. However, for unknown reasons, no eaglets were fledged this year. This is only the second time in the last 13 years that the eagle pair failed to produce any young. In cooperation with State monitoring efforts, we again recorded our periodic observations of the

eagles and submitted the annual state bald eagle nesting forms. Since 1987, 20 eaglets have been fledged at the Swan nest site.

As in past years, "transient" eagles were also observed on the refuge. In May, 4 adults and an immature eagle were observed in the vicinity of the River. These birds are "migratory" in nature and spend varying lengths of time on, in, or near the refuge feeding, resting and loafing.

3. Waterfowl

Observed duck pairs decreased 24 percent from 1997 figures. (Table II).

Table II. Pair Count Data 1993 - 1998

SPECIES	1993	1994	1995	1996	1997	1998
Mallard	71	108	78	114	21	24
Cinnamon/BW teal	21	36	21	25	0	13
Common goldeneye	24	25	22	22	30	16
Wood duck	5	9	4	11	4	1
Common merganser	0	6	7	6	6	0
Widgeon	1	5	0	5	7	1
Pintail	0	0	0	0	0	0
Ring-necked duck	5	8	0	0	12	2
Barrows goldeneye	0	0	2	0	0	0
Shoveler	4	0	0	3	0	0
Bufflehead	4	5	3	4	0	0
Green-winged teal	0	0	0	0	0	0
Gadwall	2	0	0	1	0	4
Lesser scaup	2	6	0	8	0	0
Hooded merganser	0	5	0	0	0	0
Ruddy duck	0	0	0	0	0	0
Total	139	213	137	202	80	61

1998 duck production figures were calculated using a hen productivity rate of .70 based on data obtained in nest searches on Pablo NWR and supplied by Dr. Joe Ball, Cooperative Wildlife Research Unit, University of Montana. Using this productivity rate, an average brood size of 5.1, and a brood survival rate of .7, estimated production for 1998 came to 152, a 24 percent decrease from 1997 production estimates (Table III).

Table III. Estimated Duck Production, 1990-1998 Swan River National Wildlife Refuge

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ducks	39	175	256	198	304	195	288	200	152

The reason for the decrease in duck production can be attributed to a reduction in the number of observed pairs. The decrease in the number of pairs may be attributed to a decrease in wetland water levels, weather factors and/or the fact "they just weren't there" on the day of the survey.

Waterfowl use and population estimates on the refuge are based on aerial census flights and random ground counts made in conjunction with on-going work activities. Peak population estimates are listed in Tables IV and V. Total waterfowl use-days this year were estimated at 183,900, a 27.0 percent increase from CY 97 estimates.

Table IV. Peak Waterfowl Populations, Spring Migrations Swan River National Wildlife Refuge

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Swans	150	100	10	125	200	100	100	20	25
Canada geese	400	150	140	250	350	300	125	75	150
Ducks	1650	5600	500	1465	2585	850	850	865	1455

Table V. Peak Waterfowl Populations, Fall Migrations
Swan River National Wildlife Refuge

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Swans	*55	150	250	25	50	150	75	55	50
Canada geese	150	350	200	200	200	200	100	200	50
Ducks	1086	550	2235	2550	340	1945	885	1965	525

*Observed in December

In years past, Canada goose production estimates have been based on aerial pair counts conducted in April, followed by aerial brood counts in early June. Documenting actual nesting on the refuge continues to be difficult due to high water levels and widespread inaccessibility of the refuge. No aerial Canada goose pair count surveys were conducted in 1997.

Canada goose production estimates are listed in Table VI. These figures may or may not represent actual production on the refuge. Broods hatched within the Swan River/Lake system often migrate to the refuge in search of food, loafing sites, or for safety. Figures listed in Table VI reflect observations made on the day of the aerial survey and do not necessarily reflect production that actually occurs on the refuge. These aerial counts, conducted since the mid-70's, are our most accurate, long-term index of goose production in the Swan Lake/River Refuge system.

In 1998, no aerial Canada goose pair counts were flown due to weather conditions.

Canada goose brood surveys were flown on June 4th. Estimated production increased 153 percent when compared to productivity in 1997. The reason for the increase in Canada goose production may be attributed to the fact that nearly 95 percent of the refuge was flooded in 1997, resulting in a lack of suitable ground nesting sites. In 1998 water levels were near normal, subsequently providing suitable ground nest sites.

Table VI. Swan River NWR, Canada Goose Breeding Pairs and Estimated Product

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Breeding Pairs	42	23	38	29	26	30	25	*	*
Number of Young Observed	84	52	26	85	9	56	39	19	48

* No aerial pair survey completed in 1997 or 1998

We continued our voluntary monitoring efforts with the Swan Lake Chapter of the Audubon Society in an attempt to locate loon nests on the refuge. No loon nests or broods were observed on the refuge in 1998.

4. Marsh and Water Birds

Annual flooding on the refuge in the late spring and early summer months provides excellent marsh habitat for sora rails, pied-billed grebes, red-necked and horned grebes, American bitterns, great blue herons, and many other species of marsh and water birds. As in past years, populations peaked during the mid and late summer months. As cooler weather set in during late October, this group of birds departed for warmer climates. Nesting probably occurred on the refuge; however, no formal nesting searches were conducted.

5. Shorebirds, Gulls, Terns & Allied Species

Species utilizing the refuge included California and ring-billed gulls, black tern, Wilson's phalarope, common snipe, American avocet, killdeer, and several species of sandpipers. Populations peaked in July and August.

6. Raptors

Coniferous and deciduous forest areas on the refuge continued to offer excellent resting and loafing sites for many raptor species. Northern harriers, Swainson's hawks, red-tailed hawks, and great-horned owls were observed on nearly every visit to the refuge. Nesting has occurred in the past, but was not documented this year.

7. Other Migratory Birds

In past years, as many as 64 species of non-game migratory birds have been observed utilizing the refuge during the spring, summer and early fall months. Red-winged blackbirds, common yellow-throats, song sparrows, tree swallows and common snipe are the most frequently observed species. In 1998, Montana Department of Fish, Wildlife and Parks' biologists continued non-game surveys on Forest Service tracts in northwest Montana. As in years past, the refuge's varied habitats continued to support the highest bird density of all surveyed areas in NW Montana.

8. Game Mammals

The refuge continues to provide excellent year-round habitat for many indigenous big game mammals. Deer and elk tracks are commonly seen in most upland areas on the refuge and on Bog Road. Black bear scat has been commonly observed in areas bordered by Nature Conservancy lands. In the late summer and early fall months, cow moose and their calves are often observed in marshy areas in the northwest corner of the refuge. Elk are known to winter within the old growth fir and spruce groves.

White-tailed deer were the most commonly observed game mammal. Resident populations are estimated at over 50. Fawning probably occurs but was not documented.

10. Other Resident Wildlife

Coyotes, beaver, muskrat and raccoons inhabit the refuge. Observations were generally made near the river or on backwater sloughs within the refuge.

In past years, prolific beaver activity along the shoreline of Swan River resulted in destruction of many old growth cottonwood trees. Little beaver activity was observed again this year.

11. Fisheries Resources

Game fish common to Swan Lake and portions of Swan River include yellow perch, bull trout, northern pike, kokanee salmon, largemouth bass, cutthroat, brook trout and mountain whitefish. Densely vegetated areas of Spring Creek, which empties into Swan Lake on the northeast corner of the refuge, continued to provide excellent pike spawning habitat. While conducting waterfowl pair counts in late May, we observed many "swirls" within shallow, flooded portions of the creek and the refuge, indicating the presence of spawning females. The entire refuge, including Spring Creek, is closed to fishermen as part of the annual refuge closure from March 1 - July 15 (Section H.1.).

H. PUBLIC USE

1. General

Despite the refuge's generally secluded, out-of-the-way location, lack of established interpretive foot trails and annual flooding, non-consumptive public use of the refuge continues. There is no accurate way of determining exact use and number of visits; however, based on random "car counts", discussions with the "locals" and demand for refuge leaflets (Sec. H.6.), we may have had nearly 6,000 non-consumptive visits this year. As in past years, whenever visits to the refuge were made for on-going work programs, we often observed vehicles parked in the parking lot.

7. Other Interpretive Programs

In 1997 construction began on the Watchable Wildlife viewing platform on the refuge, figures 1 & 2.



Figure 1. Site of Watchable Wildlife Viewing platform, prior to construction. After much discussion in 1997, it was decided to construct the viewing stand in an area near the refuge parking lot. This site is one of the few areas on the refuge that is unaffected by high water levels. The old refuge information box will be replaced with a kiosk built by a local Eagle Boy Scout candidate. RW 8/98



Figure 2. Construction began in late July. NBR maintenance crews, assisted by maintenance personnel from the Hatchery, spent several weeks working on the platform. An accessible pathway was included in the construction. Stain was applied in September. Interpretive signs will be added in 1999.
RW 8/98

8. Hunting

Approximately 40 percent of the refuge is open to waterfowl hunting. The majority of the waterfowl hunt area is located north of Bog Road, along portions of the refuge's lake shoreline and along portions of Swan River. Steel shot is required. Big game and upland game bird hunting is prohibited.

In 1998, the waterfowl season ran from October 3 to January 16 for ducks and from October 3 to January 10 for Canada geese. As in past years, several parties were out for the

initial opener and had constructed temporary blinds along the lake's shoreline. Cool, overcast weather on opening day aided hunter success which was generally good throughout the season. Several freeze/thaw periods occurred in early December which limited hunting visits as well as success. Late season hunting activity was again limited to open stretches of the Swan River; however, success was poor. The refuge received an estimated 200 waterfowl hunt visits this year.

9. Fishing

The annual closure period limits spring and early summer fishing activity on the refuge. After July 15 anglers often venture into Spring Creek looking for pike; however, success has always been limited due to heavy vegetation in the creek. Those portions of Swan River which flow through the refuge are open to fishing the entire year. Fishing activity is often limited in the river due to high water levels during the spring and early summer months and low flows in late summer and early fall.

The most popular fishing spot on Swan Lake continued to be at the mouth of Spring Creek just outside the refuge boundary. Northern pike lie in the reed beds before going upstream to spawn in the dense aquatic vegetation inside the refuge boundary. Fishermen take advantage of the situation by anchoring just outside the refuge boundary. Fishing success in 1998 continued to be very good.

17. Law Enforcement

Patrol efforts are generally made during the waterfowl and big game seasons. No citations were issued this year.

As in past years several calls were received during the winter months from local residents concerning snowmobile trespass on the refuge; however, by the time we showed up at the refuge the "alleged" trespassers were gone.

I. EQUIPMENT AND CONSTRUCTION

4. Equipment Utilization and Replacement

All equipment utilized on the refuge is also used in daily operations and work activities on Flathead County WPA's. See the Wetland District Narrative for further information.

J. OTHER ITEMS

4. Credits

Assistant Manager Ray Washtak wrote this report. It was edited and proof read by Sharon Hooley, administrative clerk at the Creston Fish and Wildlife Center.



